ENERGY POLICY UPDATE

May 28, 2014

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UPCOMING WEBINARS

- ENERGY STAR Webinars
- U.S. Dept. of Energy Tribal Renewable Energy Webinar Series for 2014

CONTENTS

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ARIZONA-RELATED

ASU Solar-Panel Structures Provide Shade for Students

[Arizona Republic, May 23] Arizona State University students might sweat less from the sun because of two new Power Parasol structures on the Tempe campus. The 3,096 solar panels form the roof of the Power Parasols at the center of campus next to Memorial Union and at the entrance to campus on Gammage Parkway off Mill Avenue. These structures allow enough sunlight through to grow plants. "It's an elegant design that happens to generate electricity," said Bob Boscamp, president of Chandler-based Strategic Solar Energy. "It's almost an afterthought. It is important, but to me the most important thing is the space underneath and what do you do with the space underneath." Morgan Olsen, executive vice president, treasurer and chief financial officer at ASU, said that most of the university's solar installations are public-private partnerships, but for this it invested financially because it views the two Power Parasols as amenities and works of art. John Riley, associate vice president for University Business Services, said ASU spent $5.825 million to construct and take ownership of the structures. Olsen says students can use the space under the structure all year because it is cooler. After grounds work is finished on Gammage Parkway, he expects students to enjoy the shade there, too, with music lessons or a string quartet. Unique to the structure at Memorial Union is that it lights up "with every color of the rainbow" at night with LED-equipped panels built into the columns.

Excess Heat from Air Conditioners Causes Higher Nighttime Temperatures

[ASU News, May 14] A team of researchers from Arizona State University has found that releasing excess heat from air conditioners running during the night resulted in higher outside temperatures, worsening the urban heat island effect and increasing cooling demands. "We found that waste heat from air conditioning systems was maximum during the day but the mean effect was negligible near the surface. However, during the night, heat emitted from air conditioning systems increased the mean air temperature by more than 1 degree Celsius (almost 2 degrees Fahrenheit) for some urban locations," said Francisco Salamanca, a post-doctoral research scientist at Arizona State University's School of Mathematical and Statistical Sciences. The research is presented in the paper, "Anthropogenic Heating of the Urban Environment due to Air Conditioning," published in the March 6 issue of Journal of Geophysical Research Atmospheres.

First Solar Sells 250-Megawatt Nevada Plant to NextEra

[Bloomberg, May 27] First Solar Inc. (FSLR), the largest U.S. solar-panel manufacturer, sold its 250-megawatt Silver State South power project to NextEra Energy Inc. (NEE) The project in Clark County, Nevada, will be completed by First Solar in 2016 and sell the electricity to Edison International's Southern California Edison utility, the Tempe, Arizona-based company said today in a statement. Terms weren't disclosed.

Investors Take A Shine to New UNM Solar Tech

[Energy Central, May 26] Acheap synthetic diamond material may soon be the solar industry's next best friend. Scientists from the University of New Mexico and the University of Arizona have created a process that applies chemical vapor deposition (CVD) diamonds to reduce heat from the sun in solar cells. That, in turn, allows the photovoltaic chips to convert sunlight to electricity more efficiently. The technology has caught the attention of local venture investors from the Cottonwood Technology Fund, who formed a new company, First Photonics, to take the invention to market. Cottonwood acquired an option to license the invention from the Science and Technology Corp., UNM's tech-transfer office. It invested $50,000 to further prove the technology in laboratory settings, and in the next few months, it expects to raise a much larger round of capital with co-investors to move the company forward. "It's still very early stage, but if the theoretical impact of this technology is shown to be real through further lab testing, then we think it has a lot of potential for market disruption," said Cottonwood managing partner David Blivin. First Photonics expects to apply its technology to concentrating PV systems that use multi-junction solar cells. Unlike a single-cell rooftop PV, multi-junction systems contain various layers of cells where each junction, or subcell, captures and converts sunlight to electricity, increasing output. Those systems also use massive reflectors, or mirrors, to concentrate solar rays. That immensely magnifies the amount of sunlight available for cell conversion, helping to produce industrial-scale electric generation. Nevertheless, concentrating the sunlight also greatly increases the amount of heat striking the cells. That interferes with PV efficiency, thus limiting the level of solar concentration that designers can build into systems, said Ganesh Balakrishnan, an electrical engineering professor at UNM who co-invented the new heat-reduction technology with engineers from Arizona.

Nuclear Response Center Opens in West Valley

Equipment available to help power plants in emergencies

[Arizona Republic, May 22] The nuclear-power industry opens a $40 million response center near Phoenix today that aims to back up reactors around the country in the event of a major disaster. Industry officials hope the 80,000-square-foot center — which was built in Arizona because of the state's low exposure to natural disasters — will never be put to use. But it gives them peace of mind to know that the equipment is there, and it helps meet new regulatory requirements added since the 2011 nuclear meltdown in Japan. "The nuclear plants are already designed to withstand anything we can think of," said Randy Edington, executive vice president and chief nuclear officer for Arizona Public Service Co. "This effort added flexibility. This is just building on an already well-designed system." The response center in Tolleson — and one just like it taking shape near Memphis, Tenn., —was built in response to the 2011 Fukushima Dai-ichi disaster in Japan. That meltdown was triggered by a March 11 earthquake and tsunami that knocked out power to a six-reactor nuclear facility. The 100 operating reactors in the U.S. already have backup generators and emergency equipment. And ever since the 1979 partial meltdown at Three Mile Island in Pennsylvania, nuclear plants have formulated emergency plans to support each other in the event of a disaster, said Edington, who runs Palo Verde Nuclear Generating Station, 50 miles west of downtown Phoenix, for APS. But disasters such as the Deepwater Horizon oil spill and Fukushima prompted further reviews of emergency preparedness, and the flexible response centers are among the results. They were built to ensure backup equipment would be available even in unthinkable disasters that disable one or more nuclear-power plants at once.

Proposed Arizona-Mexico Pipeline Riles Pima County

[Energy Prospects West, May 27] An Arizona pipeline project that would carry natural gas 60 miles from Tucson to the U.S. border town of Sasabe would destroy delicate desert habitat and create a "de facto highway" for illegal immigrants and drug smugglers, according to Pima County officials. The Sierrita Lateral project is under development by El Paso Natural Gas, a subsidiary of Kinder Morgan Energy Partners. It was announced in late 2012 to transport natural gas to Mexico, and "would not only benefit Arizona and the United States, but also help support cross-border energy development and a cleaner regional environment," Kinder Morgan said **in its announcement** of the project. The $200-million pipeline would also help Mexico meet its environmental goal of converting its existing oil-fired generation to natural gas, Kinder Morgan claimed. In late March, the Federal Energy Regulatory Commission issued the final EIS for the project, and is scheduled to make a final decision on the project by June 28. The project has also applied for a presidential permit, which is required for cross-border projects, and still needs various easements and approvals from Pima County, to start construction by July 1. Under current plans, the pipeline will transport about 200 million cubic feet per day through a 36-inch lateral pipeline extending from El Paso Natural Gas' existing mainline near Tucson to Sasabe, Ariz., where it will terminate. At that point, the pipeline will interconnect with a 36-inch pipeline currently under construction by Sempra International in Mexico.

Tesla Opens Latest Supercharger in Gila Bend
[KTAR.com, May 26] PHOENIX -- Tesla Motors is continuing to reduce the "range anxiety" of its customers with a new supercharging station in Arizona. The company announced last week it has opened a charging station on West Pima Street in Gila Bend that gives Tesla Model S drivers a major connection into California. According to the company, the station along Interstate 8 can be coupled with the already available Yuma, Ariz. station, to allow drivers a connection from either Phoenix or Tucson to San Diego. The purpose of the superchargers is for distance travel allowing drivers roughly three hours of driving time, then about 20 to 30 minute of charging time, according to Tesla's website. The stations are designed to give drivers about a half charge during those 20 minute breaks. Having a network of charging stations can greatly reduce consumer concerns about running out of battery while attempting long-distance travel, much like gas stations for traditional cars. So far, Tesla Motors has 94 charging stations in North America designed only for Tesla vehicles. The company expects to continue to introduce more stations as part of a company plan to cover 98 percent of the U.S. population by 2015.

Tucson Electric Power Re-ups with EnerNOC
[Energy Manager Today, May 21] Tucson Electric Power (TEP) has extended and expanded its EnerNOC Demand Resource contract for up to 45 MW of demand response capacity through 2020. TEP provides power to about 413,000 customers in the Tucson area In addition to system operations, demand response capacity helps TEP achieve goals pursuant to Arizona's Energy Efficiency Standard, which requires electric utilities to increase energy savings each year through customer-funded energy efficiency programs until the cumulative usage reduction reaches 22 percent by 2020.

World's Largest CSP Fresnel Plant is The First American CSP Technology Export
[PRWeb.com, May 22] London, UK – The common denominator is AREVA Solar, the technology supplier for a 5MW CSP booster installation on Tucson Electric Powers's H. Wilson Sundt Generating Station and to Reliance Power's new Indian plants. AREVA Solar purchased California based Fresnel company Ausra in February 2010. Up to now Fresnel's track record has been relatively small in scale with Puerto Herrado (Novatec Solar), a 30MW plant in Spain, being the biggest deployment. The Reliance plants are taking this technology to never seen before scale by building two 125MW CSP Fresnel plants using the very same technology piloted at the small Arizona installation. The Reliance plants in India which are in the commissioning phase were also partly funded by an Export-Import Bank loan guarantee as part of their initiative to fund projects where U.S. companies will be technology suppliers. Exporting CSP technology is a growing trend for American companies; with Ivanpah developers BrightSource Energy sourcing projects in new markets such as China and South Africa. California based developer SolarReserve is also moving into the South American and Middle Eastern markets. With a huge demand for renewable energy growing in emerging markets, U.S. companies with a track record in CSP are viewing this as the next big opportunity. For example, in September 2013 the Export-Import Bank sanctioned a $33.6 million loan so fluid supplier Dow Chemicals could supply developer Abengoa's plants in Spain and South Africa.

ALTERNATIVE ENERGY & EFFICIENCY

DOE Tries Crowdsourcing for Solar Innovation
[Energy Manager Today, May 21] The Energy Department announced a new prize competition – SunShot Catalyst – to spur innovation in the US solar marketplace. Intended to tackle market barriers and address technical problems that can be solved through automation, algorithms, data, and software, SunShot Catalyst will leverage the reach and power of online crowdsourcing to generate ideas, spur business innovations and develop prototypes. The Catalyst program consists of four steps with value awarded to all winning contestants totaling $1,000,000, including about $500,000 in cash prizes.

Home Solar Financing Frenzy
[Energy Prospects West, May 27] In what is shaping up as another record year for residential rooftop solar in the United States, investors from Wall Street to Silicon Valley to Switzerland are banking on the rising popularity of little- to no-money-down home solar leases and power purchase agreements. So far this year, banks and venture capital investors have combined to back solar companies offering residential leases and PPAs with more than $1 billion in fresh funds -- including around $800 million in just the past month. That's more than the previous four years combined, according to Dow Jones VentureSource data, which tracked $213.5 million in capital investments in U.S. residential solar financing and installation companies just in the first quarter of

2014, which was more than each of the past two years.

Solar Booms Beyond White House to Mega U.S. Projects

[America's Market – USA Today, May 22] The U.S. solar industry is booming not just in the residential market, as reflected in the White House's new solar panels. but also in utility-scale projects. In fact, these mega projects added more new solar capacity in the first three months of this year than in any prior first quarter, according to research this week by SNL Energy, an industry data and research firm.. They more than doubled new capacity to 680 megawatts in 2014's first quarter, up from 335 megawatts a year ago but down from the historic 2,209 megawatts added in the fourth quarter of 2013. Most of this first-quarter growth resulted from two huge projects that came on line in California. The Topaz Solar Farm in San Luis Obispo County, owned by Berkshire Hathaway Inc., is still expanding and its construction is slated to be complete in January. The Genesis Solar Energy project in Riverside County, owned by NextEra Energy Inc., was partially backed by an $852 million loan guarantee from the U.S. Department of Energy. A lot more utility-scale solar is underway as companies race to complete projects by the end of 2016, after which the 30% federal tax investment credit drops to 10%. About 35,265 megawatts (or 35.2 gigawatts) is in development, half of which is slated for completion before 2017, according to LNG's research. On Wednesday, a DOE report said 2014 "marks a significant milestone in the history of American solar energy." It said solar is moving beyond home rooftops to large-scale technologies such as concentrating solar power or CSP, which uses mirrors to focus and concentrate sunlight onto a receiver. A heat transfer fluid then carries the thermal energy to a power block to generate electricity.

US 'Green Steam' Project Inaugurated

[Cogeneration & On-Site Power Production, May 22] The US cities of Boston and Cambridge, Massachusetts have inaugurated a joint district energy network. The US$112 million 'Green Steam' project includes a 30-mile (48-km) pipe network that will serve 250 business district and biotechnology corridor customers, including 14 high-rise buildings, with steam from the 256 MW natural gas-fired Kendall combined heat and power station in Cambridge. The company estimates that the network will cut the cities' carbon dioxide emissions by 475,000 tonnes and reduce non-transport carbon emissions for both cities by 6%. Boston's mayor, Martin Walsh, said, 'Veolia has been a strong and loyal partner with the city and the completion of this project marks an important step forward in attaining our Greenovate Boston goal of reducing Boston's greenhouse gas emissions 25% by 2020 and 80% by 2050.'

US Plants Prepare Long-Term Nuclear Waste Storage

[Associated Press, May 26] WATERFORD, Conn. — Nuclear power plants across the United States are building or expanding storage facilities to hold their spent fuel — radioactive waste that by now was supposed to be on its way to a national dump. The steel and concrete containers used to store the waste on-site were envisioned as only a short-term solution when introduced in the 1980s. Now they are the subject of reviews by industry and government to determine how they might hold up — if needed — for decades or longer. With nowhere else to put its nuclear waste, the Millstone Power Station overlooking Long Island Sound is sealing it up in massive steel canisters on what used to be a parking lot. The storage pad, first built in 2005, was recently expanded to make room for seven times as many canisters filled with spent fuel. Dan Steward, the first selectman in Waterford, which hosts Millstone, said he raises the issue every chance he can with Connecticut's congressional members. "We do not want to become a nuclear waste site as a community," Steward said. The government is pursuing a new plan for nuclear waste storage, hoping to break an impasse left by the collapse of a proposal for Nevada's Yucca Mountain. The Energy Department says it expects other states will compete for a repository, and the accompanying economic benefits, and it's already heard from potential hosts in New Mexico, Texas and Mississippi. But the plan faces hurdles including a need for new legislation that has stalled in Congress. So plants are preparing to keep the high-level nuclear waste in their backyards indefinitely. Most of it remains in pools, which cool the spent fuel for several years once it comes out of the reactors. But with the pools at or nearing capacity, the majority is expected within a decade to be held in dry casks, or canisters, which are used in 34 states. Only three of the 62 commercial nuclear sites in the U.S. have yet to announce plans to build their own.

U.S. Non-Hydro Renewables Outproduce Hydropower for The First Time

[North American Windpower, May 27] For the first time ever, during the first quarter of this year, electricity generated in the U.S. by non-hydro renewables (wind, solar, biomass and geothermal) exceeded that provided by conventional hydropower. That is according to the SUN DAY Campaign's new analysis of data in the latest issue of the U.S. Energy Information Administration's Electric Power Monthly. In addition, solar and wind generation both increased during the quarter. The Sun Day Campaign, a renewable energy advocacy group, says non-hydro

renewables provided 53.16% of the net U.S. electrical generation from renewable energy sources for the period Jan. 1 - March 31, 2014, while hydropower provided the balance of 46.84%. This reflects an increase of 11.3% in electrical generation by non-hydro renewables compared to the first quarter of 2013, as well as a decline of 4.5% in hydropower's output - possibly contributed to by the worsening drought in California, SUN DAY says. Notably, electrical generation from solar photovoltaic and solar thermal grew by 103.8%, while wind expanded by 12.6%; biomass also increased by 2.2%, but geothermal dipped by 3.3%. Electrical generation from all renewable energy sources combined, including hydropower, was 3.29% higher during the first quarter of this year compared to the first three months of 2013 and accounted for 13.09% of net U.S. electrical generation. Hydropower accounted for 6.13% of net U.S. electrical generation for the period, followed by wind (4.82%), biomass (1.46%), geothermal (0.39%), and solar (0.29%).

USDA Announces Support for Renewable Biomass Energy

[KBTX.com, May 21] WASHINGTON – The U.S. Department of Agriculture (USDA) today announced support for agriculture producers and energy facilities working to turn renewable biomass materials into clean energy. The support comes through the Biomass Crop Assistance Program (BCAP), which was reauthorized by the 2014 Farm Bill and will resume this summer. The Farm Bill authorizes $25 million annually for BCAP, requiring between 10 and 50 percent of the total funding to be used for harvest and transportation of biomass residues. Traditional food and feed crops are ineligible for assistance. The 2014 Farm Bill also enacted several modifications for BCAP, including higher incentives for socially disadvantaged farmers and ranchers, and narrower biomass qualifications for matching payments, among other changes. “This initiative helps farmers and ranchers manage the financial risk of growing and harvesting energy biomass at commercial scale,” said Farm Service Agency Administrator, Juan M. Garcia. “Investing in agricultural and forestry producers who cultivate energy biomass and supporting next-generation biofuels facilities make America more energy independent, help combat climate change and create jobs in rural America.” BCAP employs three types of biomass assistance. For growing new biomass, BCAP provides financial assistance with 50 percent of the cost of establishing a perennial crop. To maintain the crop as it matures until harvest, BCAP provides an annual payment for up to five years for herbaceous crops, or up to 15 years for woody crops. To collect existing agriculture or forest residues that are not economically retrievable, BCAP provides matching payments for mitigating the cost of harvesting and transporting the materials to the end-use facility.

ENERGY/GENERAL

China and Russia Reach 30-Year Gas Deal

[New York Times, May 21] BEIJING — China and Russia signed a $400 billion gas deal on Wednesday, giving Moscow a megamarket for its leading export and linking two major powers that, despite a rocky history of alliances and rivalries, have drawn closer to counter the clout of the United States and Europe. The impetus to complete the gas deal, which has been talked about as a game-changing accord for more than a decade, finally came together after the Ukrainian crisis forced Russia’s president, Vladimir V. Putin, to urgently seek an alternative to Europe, Moscow’s main energy market. Europe has slapped sanctions on Russia and sought ways to reduce its dependence on Russian energy. Mr. Putin, on a two-day visit to Shanghai, and the Chinese leader, Xi Jinping, oversaw the signing of the contract between Gazprom and the China National Petroleum Corporation, the biggest natural gas deal Russia has sealed since the collapse of the Soviet Union. The contract runs for 30 years and calls for the construction of pipelines and other infrastructure that will require tens of billions of dollars in investment.

Grants Available for Energy Resiliency

[Energy Manager Today, May 23] Massachusetts has created the Community Clean Energy Resiliency Initiative, a $40 million grant program intended to help ensure energy resiliency at critical facilities. State funding will be made available to cities and towns that identify the facilities in their community where loss of electrical service would result in disruption of critical public safety functions, including emergency services, shelters, food and fuel supply, and communications infrastructure. Clean energy technologies would be used to keep these systems operable. Under the program, administered by the Department of Energy Resources (DOER), cities and towns can apply for either technical assistance or direct project implementation funding to help protect their communities from interruptions in energy service due to severe climate events worsened by the effects of climate change. Communities that receive a technical assistance award can subsequently apply for project implementation funding.

Shakeout Threatens Shale Patch As Frackers Go for Broke

The U.S. shale patch is facing a shakeout as drillers struggle to keep pace with the relentless

spending needed to get oil and gas out of the ground. Shale debt has almost doubled over the last four years while revenue has gained just 5.6 percent, according to a Bloomberg News analysis of 61 shale drillers. A dozen of those wildcatters are spending at least 10 percent of their sales on interest compared with Exxon Mobil Corp.'s 0.1 percent.

Transmission Company Files for Underwater, Underground Power Line Across U.S./Canada Border

[Associated Press, May 21] MONTPELIER, Vt. — An energy project developer formally asked the U.S. Department of Energy on Tuesday for approval to build a 1,000 MW, underwater and underground power line to bring Canadian power to New England by way of Vermont. TDI New England said it has filed a presidential permit application with the DOE for a $1.2 billion project it is calling the Clean Power Link. The company hopes to complete the project in 2019. The power line would bring hydroelectric and wind power from energy-rich Quebec to the energy-hungry cities of southern New England. "The presidential permit process is quite extensive, relying on input from various experts and stakeholders to ensure all potential impacts and benefits are understood," the company's CEO, Don Jessome, said in a statement. The project also will need approval from the U.S. Army Corps of Engineers and the Vermont Public Service Board. "We'll literally be doing hundreds of public meetings for this project," Jessome said in an interview. Presidential permits are required when energy is moved across international borders. Electricity and natural gas applications go through the DOE, Jessome said. Oil pipelines, like the Keystone XL pipeline proposed to run through the Great Plains from Canada to Texas, go through the State Department. If approved by regulators, the power line's route will run from the Canadian border near Alburgh, 3 to 4 feet under Lake Champlain for nearly the entire length of the lake — about 97 miles — and then turn southeasterly at Benson, crossing Rutland County to Ludlow in western Windsor County.

INDUSTRIES AND TECHNOLOGIES

A Breakthrough in Power Plant Waste Heat Conversion

[Fierce Energy, May 23] Through research funded, in part, by the U.S. Department of Energy (DOE), scientists at MIT and Stanford University have found a new alternative for low-temperature waste-heat conversion into electricity in cases where temperature differences are less than 100 degrees Celsius. Researchers have spent decades trying to harness the vast amounts of excess, wasted heat generated by industrial processes and electric power plants. Up to this point, most efforts have focused on thermoelectric devices, solid-state materials that can produce electricity from a temperature gradient, but the efficiency has been limited. The new approach, based on the thermogalvanic effect, combines the charging-discharging cycles of batteries with heating and cooling, so the discharge voltage is higher than charge voltage since the voltage of rechargeable batteries depends on temperature. The system can efficiently harness even relatively small temperature differences.

Algenol Develops Direct to Ethanol Technology

[CTBR Biofuels, May 14] Algenol has developed Direct to Ethanol technology, which allows the production of four important fuels for about $1.27 per gallon. Algenol CEO Paul Woods told Nature World News a combination of algae, sunlight, carbon dioxide (CO_2), saltwater and non-arable land yields a whopping 8,000 total gallons of liquid fuel per acre per year - that's way more than the 420 gallons of fuel per acre per year that corn biofuel produces. The technology has the ability to produce ethanol, gasoline, diesel and jet fuel. It depends on Algenol's patented photobioreactors and downstream separation techniques for low-cost fuel production. The technology follows two-step process under which it first produces ethanol directly from the algae and then converts the spent algae biomass to biodiesel, gasoline and jet fuel.

Impossible" Electric Airplane Takes Flight

[Scientific American, May 27] BERLIN—When a Panavia Tornado blasted into the clouds above the Berlin Air Show before swooping back down toward the Earth, the grounds below shook from the roar of the fighter bomber's twin engines. When the next aircraft took to the sky, the air show went eerily quiet. The fully electric E-Fan aircraft, engineered by Airbus Group, made one of its first public demonstrations here last week following it's first-ever flight in France on March 11. The novel two-seater aircraft was designed from the outset for electrical propulsion, from its energy management system to safety features. In developing this technology, Airbus aims to one day reduce the aerospace industry's carbon dioxide emissions by an order of magnitude. "It's a very different way of flying," said Jean Botti, chief technical and innovation officer at Airbus Group, "absolutely no noise, no emissions."

Vermont "Unique" on Energy, Smart Grid

[Fierce Smart Grid, May 21] Vermont "really looks unique" in terms of public and private cooperation on energy issues and success stories -- including the first-in-the-nation statewide smart grid, Montpelier's district heat project, and Rutland County's efforts to improve energy efficiency at homes and businesses -- according to U.S. Energy Secretary Ernest Moniz's recent comments at an energy summit in the state. The state of Vermont is on the cutting edge of transforming its energy systems from fossil fuels to sustainable energy, and has taken a leading role in developing advanced energy storage, smart grid integration and resiliency, cold weather heat pumps, efficiency retrofits, clean energy research, and agricultural methane digester technologies. Vermont Utilities put the proceeds of a Department of Energy Smart Grid Investment Grant totaling $138 million to use for projects, ranging from advanced metering infrastructure deployment and customer information system upgrades to substation and distribution automation and dynamic pricing and consumer studies.

LEGISLATION AND REGULATION

China To Take 6 Million Older Vehicles Off Roads

[Associated Press, May 27] BEIJING — China's government plans to take 6 million older, polluting vehicles off the road this year in an effort to revive stalled progress toward cleaning up smog-choked cities. The plan also calls for filling stations in Beijing, Shanghai and other major cities to switch to selling only the cleanest grades of gasoline and diesel, according to a Cabinet statement issued Monday. The order comes after China failed to meet official pollution-reduction goals for 2011-2013, the statement said. It said vehicles registered before 2005 that fail to meet cleaner emissions standards will be "phased out," though it did not say how. It called the country's environmental situation "extremely grim." China's major cities are smothered in eye-searing smog. The country has some of the world's strictest emissions standards, but authorities have refrained from enforcing them until now to avoid forcing older, pollution-belching trucks off the road and hurting small businesses. Monday's announcement suggests authorities have settled that conflict in favor of environmental protection following reports on the mounting health and economic costs of pollution.

Cleaner Air Could Mean Higher Electric Bills

[Associated Press, May 22] Electricity prices are probably on their way up across much of the U.S. as coal-fired plants, the dominant source of cheap power, shut down in response to environmental regulations and economic forces. New and tighter pollution rules and tough competition from cleaner sources such as natural gas, wind and solar will lead to the closings of dozens of coal-burning plants across 20 states over the next three years. And many of those that stay open will need expensive retrofits. Because of these and other factors, the Energy Department predicts retail power prices will rise 4 percent on average this year, the biggest increase since 2008. By 2020, prices are expected to climb an additional 13 percent, a forecast that does not include the costs of coming environmental rules. The Obama administration, state governments and industry are struggling to balance this push for a cleaner environment with the need to keep the grid reliable and prevent prices from rocketing too much higher. Coal is the workhorse of the U.S. power system. It is used to produce 40 percent of the nation’s electricity, more than any other fuel. Because it is cheap and abundant and can be stored on power plant grounds, it helps keep prices stable and power flowing even when demand spikes.

EPA Defeats Groups’ Push To Toughen Rules on Acid Rain

The U.S. Environmental Protection Agency, in at least its sixth court victory this year in air-quality cases, defeated a challenge by environmental groups to its delay of new rules to combat acid rain. The U.S. Court of Appeals in **Washington** today accepted the agency’s argument that drafting effective rules to curb the airborne chemicals that cause acid rain involves “large complexities” that require the additional study the agency said was called for. “In light of the deference due EPA’s scientific judgment, it is clear its judgment must be sustained here,” U.S. Circuit Judge A. Raymond Randolph wrote for a three-judge panel. The appeals court earlier this year upheld EPA regulatory decisions regarding pollution from cement kilns and coal mines, as well as power-plant mercury emissions, particulate-matter emissions and carbon-monoxide standards. The court rejected challenges by industry and environmentalists and supported the agency’s discretion on rulemaking. In addition, the U.S. Supreme Court in April upheld the EPA’s “good neighbor” rule that requires states to cut emissions that “contribute significantly” to pollution in other states.

Mexican Government Wants 33% of Electricity Capacity To Come from Renewable Sources by 2018

[PV-Tech.org, May 20] The Mexican government has set lofty goals for the future, as energy

secretary Pedro Joaquin Coldwell announced that the current administration wants 33% of the country's installed electricity capacity to come from renewable sources by 2018. Speaking at an energy conference in the Mexican state of Quintana Roo, Coldwell said: "We are proposing to expand the role of renewable energy to 33 percent of installed capacity by 2018." According to the energy secretary, Mexico has the means to generate more than 18,000GW/h per year from solar, geothermal, minihydraulic, wind, and bioenergy sources. Coldwell added that certain legislation, which would make it easier to work in the electricity generation market, must be approved by the Mexican Congress. Government officials are expected to debate this legislation in the coming weeks.

Reauthorization of Water Resources Reform and Development Act Includes 'Wins' for Western Governors

[WGA website, May 22] The 91-7 vote today (May 22, 2014) in the Senate to reauthorize the **Water Resources Reform and Development Act (WRRDA)** delivers significant 'wins' for Western Governors. The House approved the measure 412-4 earlier this week. The influential water infrastructure legislation that guides federal water development, according to the Congressional Budget Office, will cost $5.4 billion over the 2015-2019 period, with $6.9 billion spent from 2020-2024 and additional spending in the years after 2024. Western Governors strongly supported reauthorization of WRRDA because the responsible development and management of water resources is critical for Western states, which routinely face both scarcity issues and flood management challenges.

WESTERN POWER

Abengoa Completes 206MW Solar PV Project in California, US

[Energy Business Review, May 22] Spanish engineering and clean technology firm Abengoa has completed construction of the 206MW Mount Signal solar photovoltaic (PV) plant for Silver Ridge Power at Calexico in south east of California, US. Under the contract worth $365m, Abengoa provided the engineering, construction and commissioning services for the project that covers 801 hectares of land. Equipped with more than three million PV modules, the project is said to be the world's largest single-axis PV plant that would prevent the emission of 356,000 tons of CO_2 per year into the atmosphere.

CPS To Add Solar Fees

[San Antonio Express-News, May 20] CPS Energy officials said Monday the utility wants to expand rooftop solar by offering $20 million in rebates to solar customers in addition to the $30 million in rebates it's already given out. But the proposal also calls for two types of fees that solar customers would have to pay, prompting criticism from solar advocates that the fees would suppress installation of rooftop systems. City-owned CPS wants to charge residential solar customers a one-time $450 hook-up fee for a rooftop solar system, as well as a $1 per kilowatt charge per month -- or $5 a month for the average residential system. That fee will rise to a maximum of $17.50 a month for customers who add solar in later years. Commercial customers would pay a fee that would vary according to the size of the solar installation. The fees are needed to recoup costs and make the system fair to all CPS ratepayers, officials said.

UCR a Test Bed of Solar, EV and Battery Integration

[Fierce Smart Energy, May 21] Today marks the official launch of the largest renewable energy project of its kind in California -- the University of California - Riverside's (UCR) Sustainable Integrated Grid Initiative. The research project will examine the integration of intermittent renewable energy, such as photovoltaic solar panels; energy storage, such as batteries; and all types of electric vehicles (EV). "This project puts UC Riverside at the forefront of smart grid and electric vehicle research, providing a unique platform for engineers and utilities to identify and solve potential problems at scale," said Matthew Barth, lead investigator of the initiative and the director of UC Riverside's Bourns College of Engineering Center for Environmental Research and Technology (CE-CERT). On average, California derives two-thirds of its electricity from fossil fuels such as coal and natural gas, and the majority of vehicles in the state are powered by imported oil. Introducing renewable electricity generation and electric vehicle technologies such as plug-in hybrids are two key priorities in California's strategy to move toward domestic energy diversity, and to meet air quality and greenhouse gas goals. To meet these priorities, utility providers need to ensure that bringing a significant number of fast charging electric vehicles onto the existing grid system will not impact the local electricity demand and reliability. A key component of the UCR project is to demonstrate that electric vehicles can be seamlessly introduced into the existing grid system through "smart integration" of renewable energy, storage and advanced dispatch controls.

ARIZONA STATE INCENTIVES/POLICIES

ARIZONA COMMERCE AUTHORITY (ACA)

INCENTIVES

Arizona has lowered taxes, streamlined regulations, and established a suite of incentives to support corporate growth and expansion. The Arizona Competitiveness Package, groundbreaking legislation adopted in 2011, makes it easier for existing Arizona companies to prosper and establishes Arizona as one of the most desirable places for expanding companies to do business. Give your company a competitive edge by utilizing Arizona's incentives.

- Job Training
- Quality Jobs
- Qualified Facility
- Computer Data Center Program
- Research & Development
- Foreign Trade Zone
- Military Reuse Zone
- Angel Investment
- Renewable Energy Tax Incentive
- Healthy Forest
- Sales Tax Exemption for Machinery and Equipment
- Lease Excise
- Additional Depreciation
- Work Opportunity
- Commercial/Industrial Solar
- SBIR/STTR
- Private Activity Bonds
- QECB's

(ACA) PROGRAMS

DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY (DSIRE)

- Arizona Incentives/Policies
- Federal Incentives/Policies
- Solar Policy News - DSIRE provides summaries of current solar policy developments and an archive of past solar policy developments. Current solar news appears below the news archive, which is searchable by several criteria.

GRANTS

The following solicitations are now available:
(Click on title to view solicitation)

- Clean Energy Manufacturing Innovation Institute for Composite Materials & Structures
  Close Date: June 19, 2014
- Solar Market Pathways Concept Paper Submission Deadline: May 28, 2014 5:00 PM ET. Full Application Submission Deadline: July 3, 2014 5:00 PM ET.
- NEW! Renewable Energy for America Close Date: July 7,2014
- Sunshot "Race to the Roof" Initiative Registration Due: October 31, 2014

- Energy, Power, and Adaptive Systems Close Date: November 3, 2014
- NSF/DOE Partnership on Advanced Frontiers in Renewable Hydrogen Fuel Production Via Solar Water Splitting Technologies 2014-2016 Close Date: Dec. 11, 2014
- Energy for Sustainability Response Due: February 19, 2015
- NEW! Solar Market Pathways Response due July 3, 2015
- Advanced Fossil Energy Projects - Solicitation Number: DE-SOL-0006303 Expiration Date: November 30, 2016
- Energy Department Announces Next Phase of L Prize Competition to Create Innovative Energy-Saving Lighting Products – Notification of Intent to Submit Product minimum of 30 days, but no more than 45 days prior to product submission. Monetary prize goes to the first successful entrant with the earliest timestamp.
- Repowering Assistance Program – Ongoing
- Rural Business Enterprise Grants – Ongoing
- Rural Business Opportunity Grants – Ongoing
- Sustainable Agriculture Research and Education Grants – Ongoing
- Renewable Energy RFP's - Solicitations for Renewable Energy Generation, Renewable Energy Certificates, and Green Power – Various Deadlines
- U.S. Dept. of Agriculture - Rural Development Grant Assistance
- Green Refinance Plus - Ongoing

ENERGY-RELATED EVENTS

2014

- Dept. of Energy's 13th Annual Small Business Forum & Expo
  June 10-12, 2014 Tampa, FL
- Native American Economic Development & Energy Projects Conference
  June 16-17, 2014 Anaheim, CA
- AZBio Expo 2014
  June 19, 2014 Scottsdale, AZ
- 32nd Annual West Coast Energy Management Congress
  June 25-26, 2014 Seattle, WA
- Solar 2014: 43rd Annual Conference
  July 6-10, 2014 San Francisco, CA
- Renewable Energy Development on Federal Lands 2014
  July 16-17, 2014 Denver, CO
- HydroVision International
  July 22-25, 2014 Nashville, TN
- Biomass 2014: Growing The Future Bioeconomy
  July 29-30, 2014 Washington, DC
- National Geothermal Summit
  August 5-6, 2014 Reno, NV

- Microgrid Development for Public & Private Sectors
  August 12-14, 2014 San Diego, CA
- 2014 ACEEE Summer Study on Energy Efficiency in Buildings
  August 17-22, 2014 Pacific Grove, CA
- EPI's 4th Annual Energy Policy Research Conference
  September 4-5, 2014 San Francisco, CA
- HTUF 2014 National Meeting - The Forum for Action in High-Efficiency Commercial Vehicles
  September 22-24, 2014 Argonne, National Lab Argonne, IL
- Geothermal Energy Expo
  September 28-October 1, 2014 Portland, OR
- Solar Power International
  Oct. 20-23, 2014 Las Vegas, NV
- GreenBuild International Conference & Expo
  October 22-24, 2014 New Orleans, LA
- World Bio Markets USA
  October 27-29, 2014 San Diego, CA
- Governor's Celebration of Innovation
  November 13, 2014
- Solar Power Generation USA 2015
  February 4-5, 2015 San Diego, CA
- ASU Sustainability Series Events
- Green Building Lecture Series
  Granite Reef Senior Center Scottsdale, AZ